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**Davenport et al.**

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(54) **MULTI-USE CREDIT CARD FOR FINANCIAL TRANSACTIONS AND VEHICLE CONFIGURATION**

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(51) **Int. Cl.**[7] ..... **G06K 17/00**; G06K 5/00
(52) **U.S. Cl.** ..... **235/375**; 235/384; 235/380
(58) **Field of Search** ..... 235/384, 385, 235/383, 382, 382.5, 380, 375

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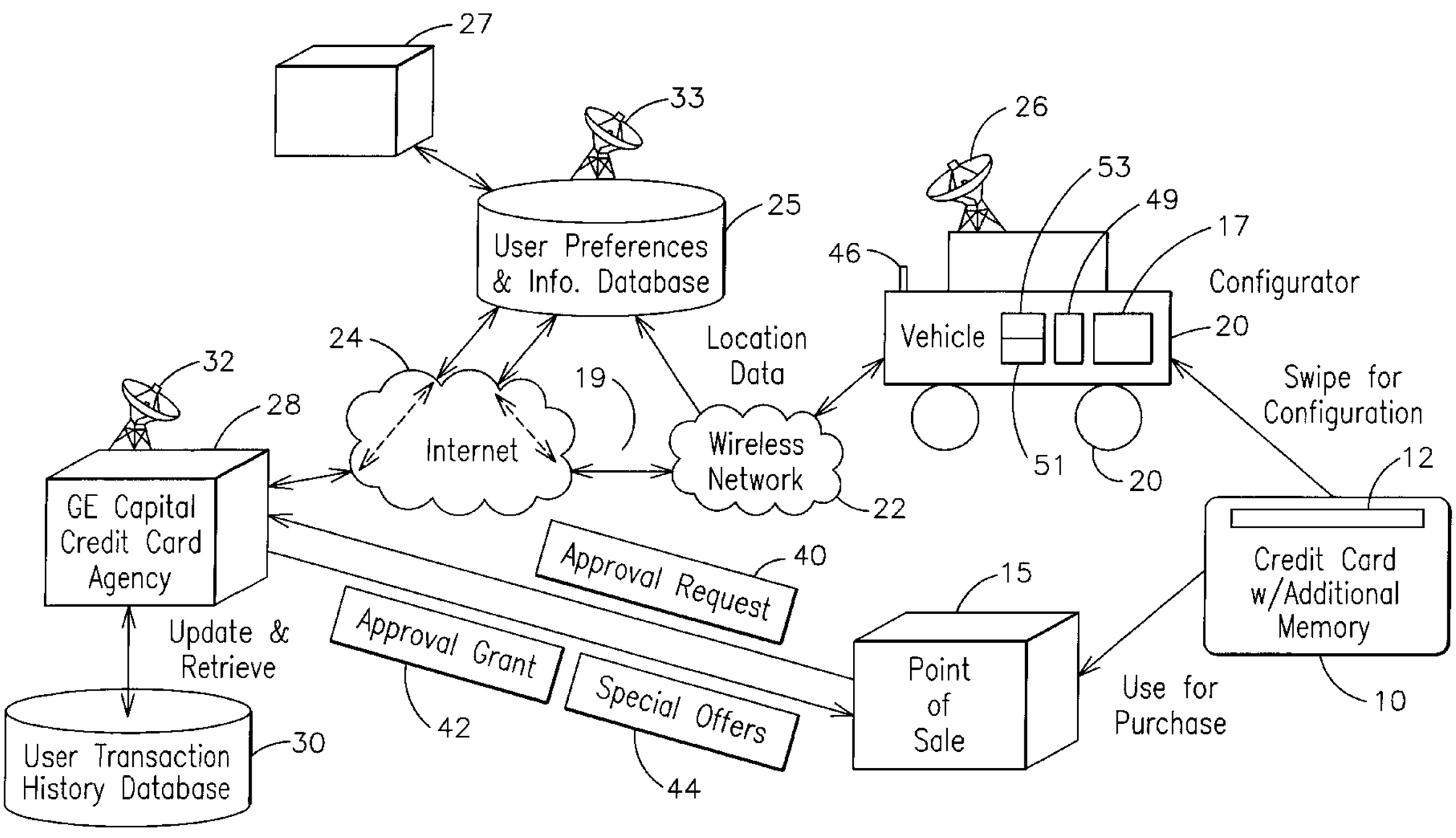
(57) **ABSTRACT**

A credit card system and method for configuring a vehicle specific to a user and for transacting financial transactions, the system comprising a User Preference and Information Database containing information specific to said user for configuring a specific vehicle, a credit card capable of storing financial transaction information and information to access said User Preference Database, a credit card data receptacle located in said vehicle, a global communication network, a User Transaction History Database containing information about said user's prior transactions, a display monitor located in said vehicle, and a point of sale where said credit card is used for a financial transaction.

**32 Claims, 4 Drawing Sheets**



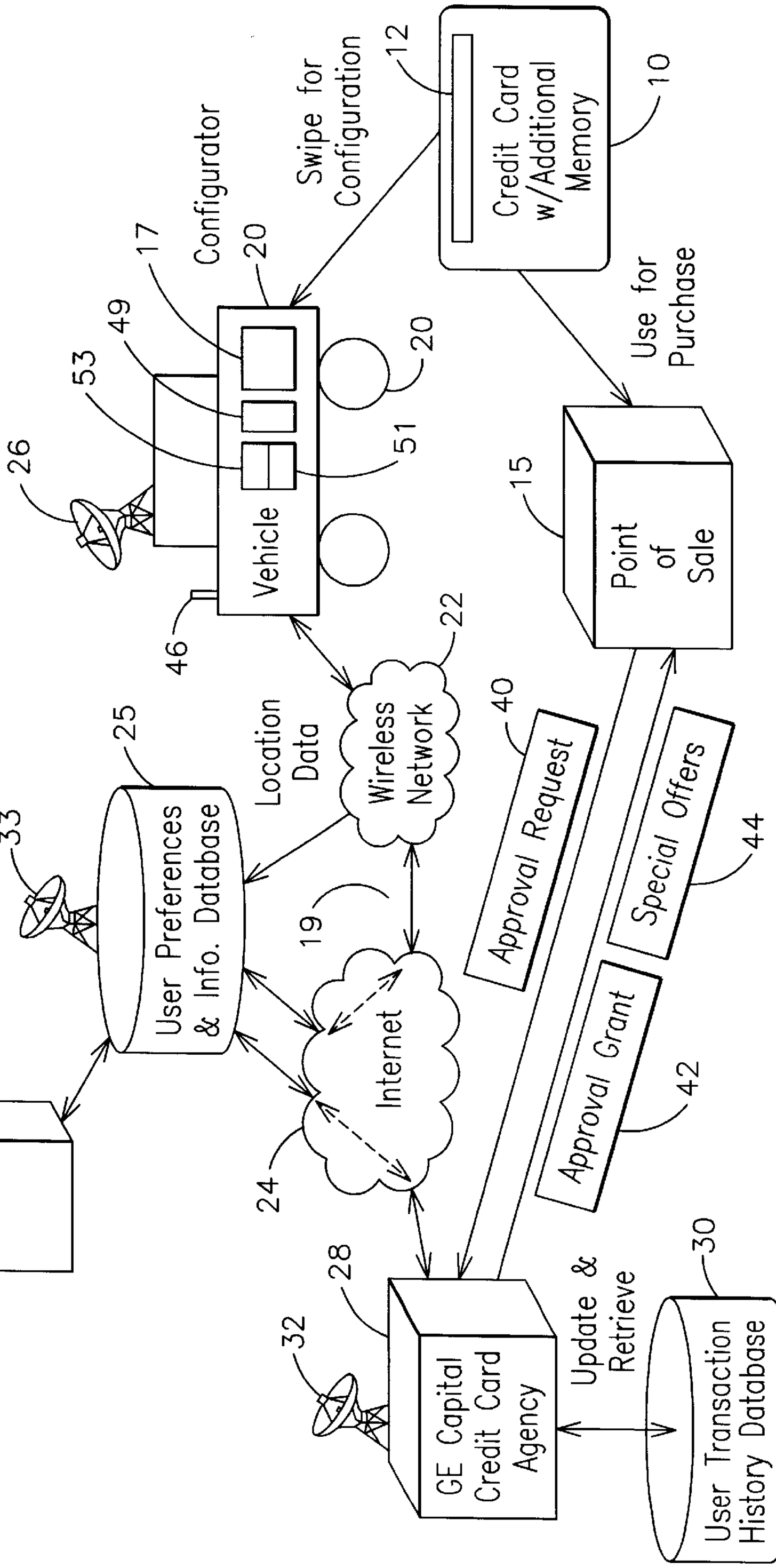

Credit Card w/Additional Memory
10
12
Swipe for Configuration
Configurator
20
17
Use for Purchase
Point of Sale
15
Vehicle
20
51
53
49
26
46
25
Location Data
Wireless Network
22
40
Approval Request
Special Offers
44
Approval Grant
42
Internet
19
24
User Preferences & Info. Database
33
27
28
32
GE Capital Credit Card Agency
Update & Retrieve
30
User Transaction History Database

FIG. 1

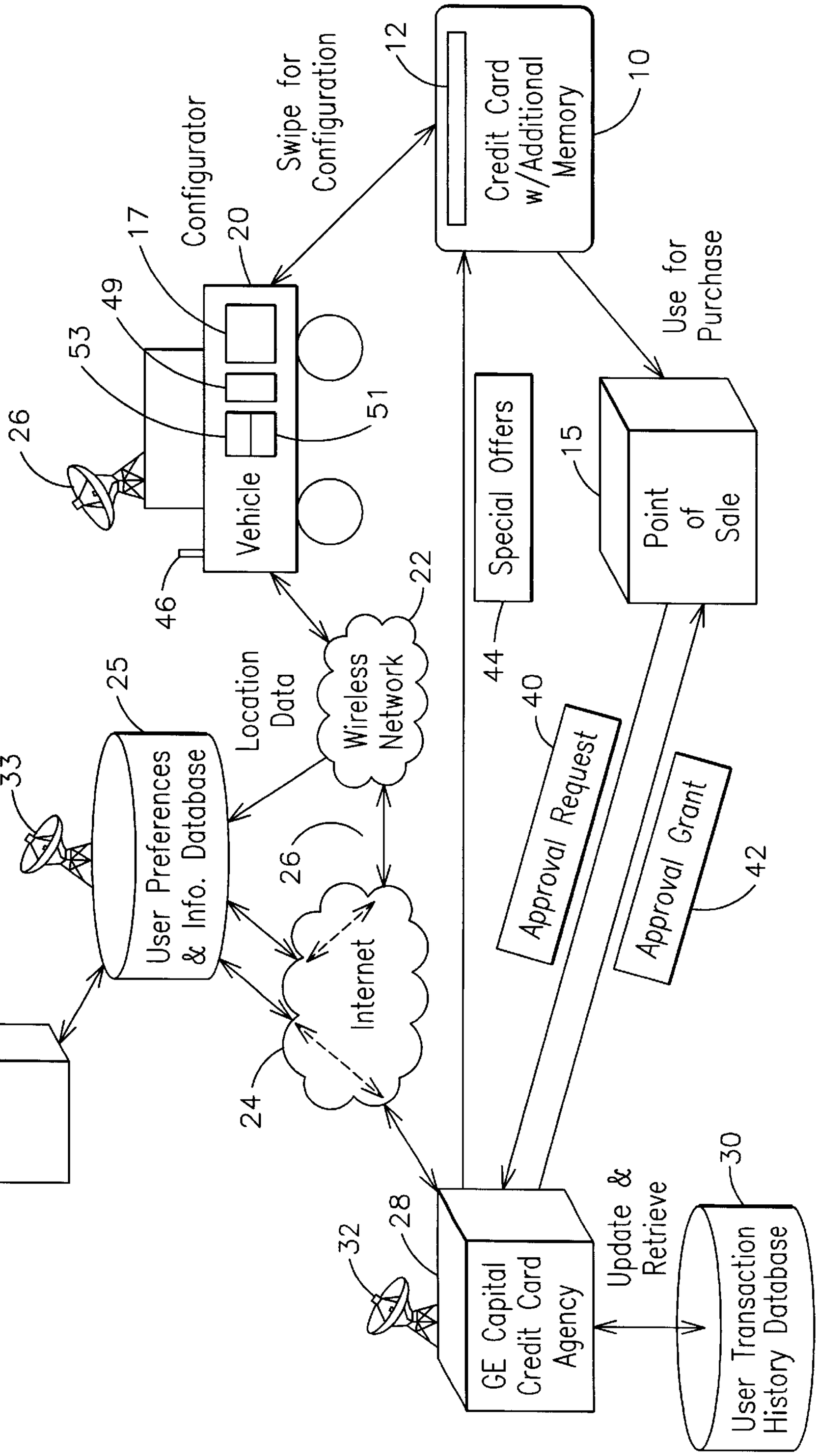

Credit Card w/Additional Memory
12
10
Swipe for Configuration
Configurator
20
17
49
53
26
Vehicle
51
46
Special Offers
44
Use for Purchase
15
Point of Sale
Location Data
Wireless Network
22
25
User Preferences & Info. Database
33
26
Internet
24
27
40
Approval Request
Approval Grant
42
30
Update & Retrieve
User Transaction History Database
28
32
GE Capital Credit Card Agency

FIG. 2

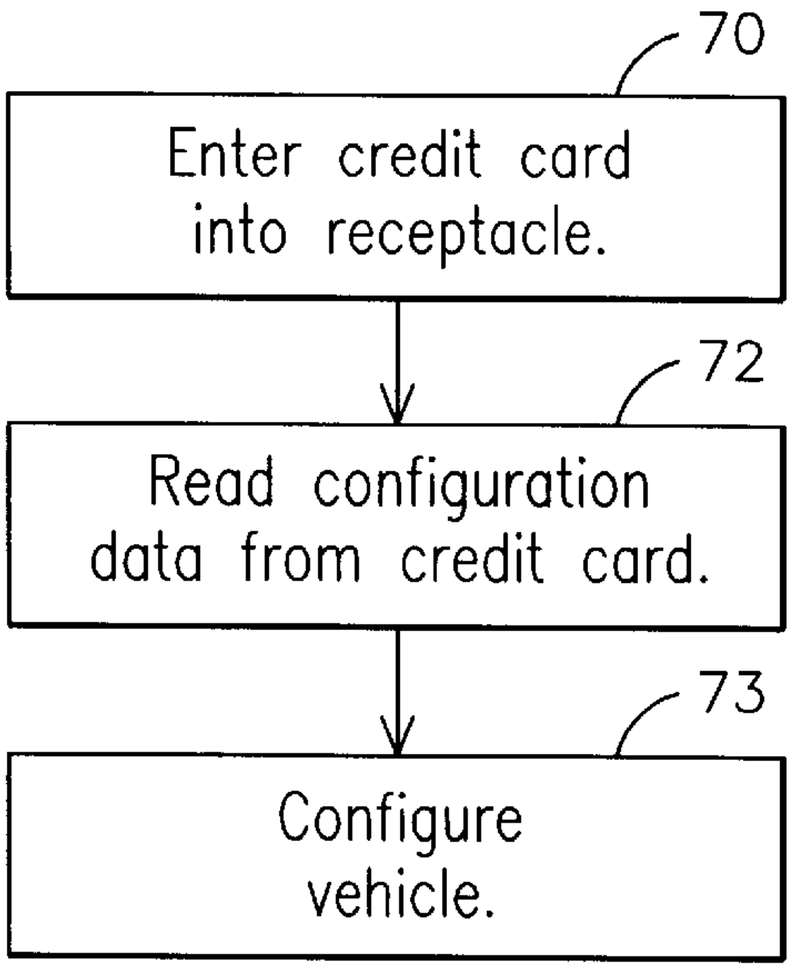



*FIG. 3*

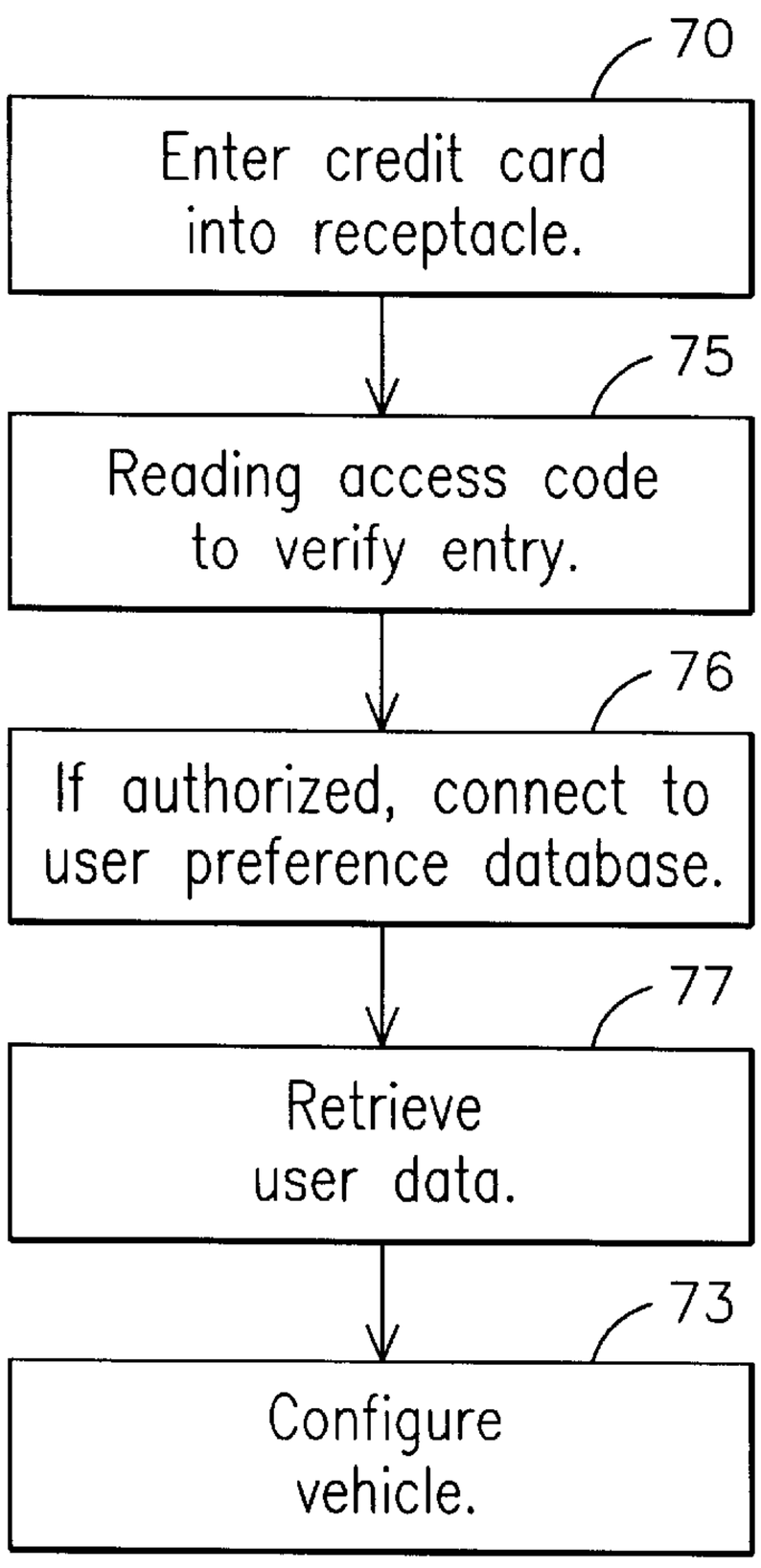



*FIG. 4*

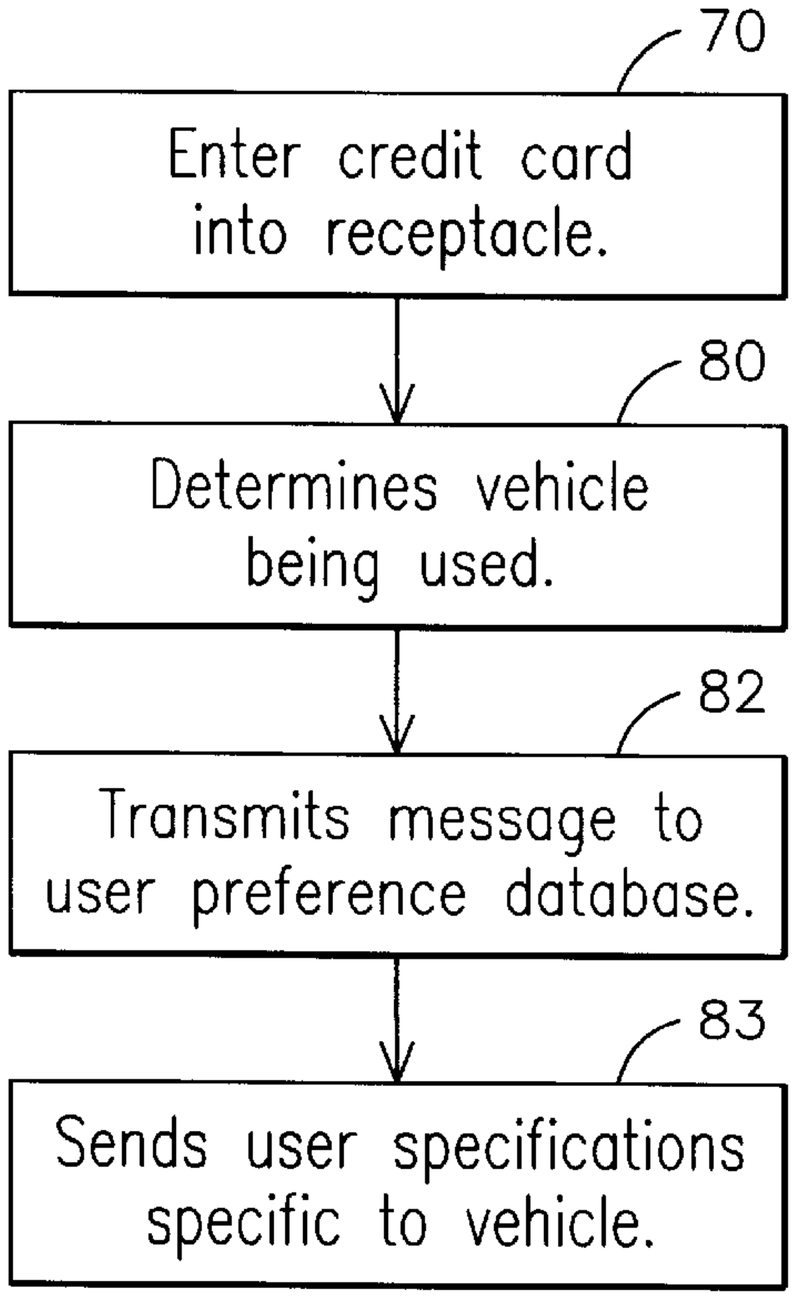



*FIG. 5*

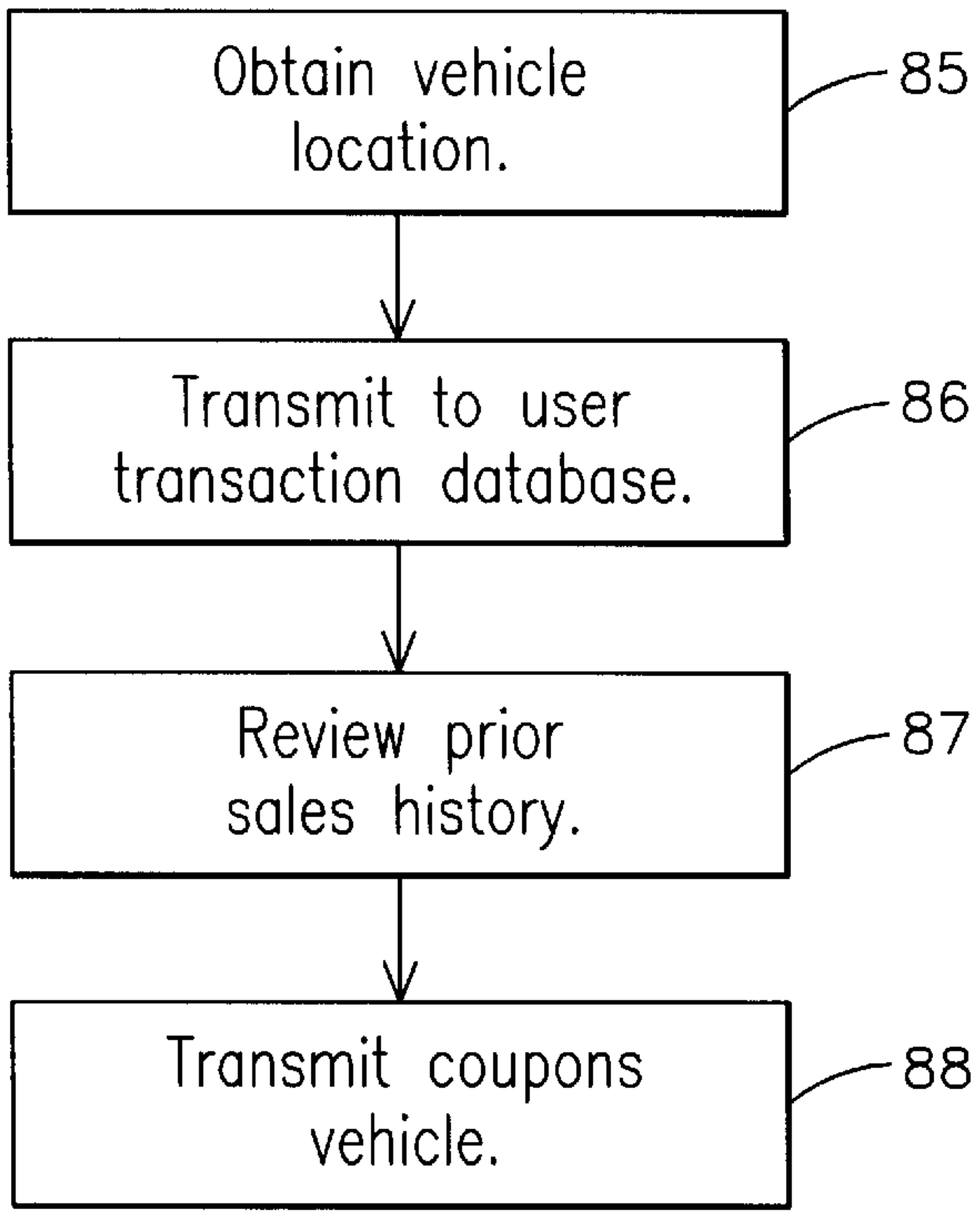

Obtain vehicle location.
85
Transmit to user transaction database.
86
Review prior sales history.
87
Transmit coupons vehicle.
88

*FIG. 6*

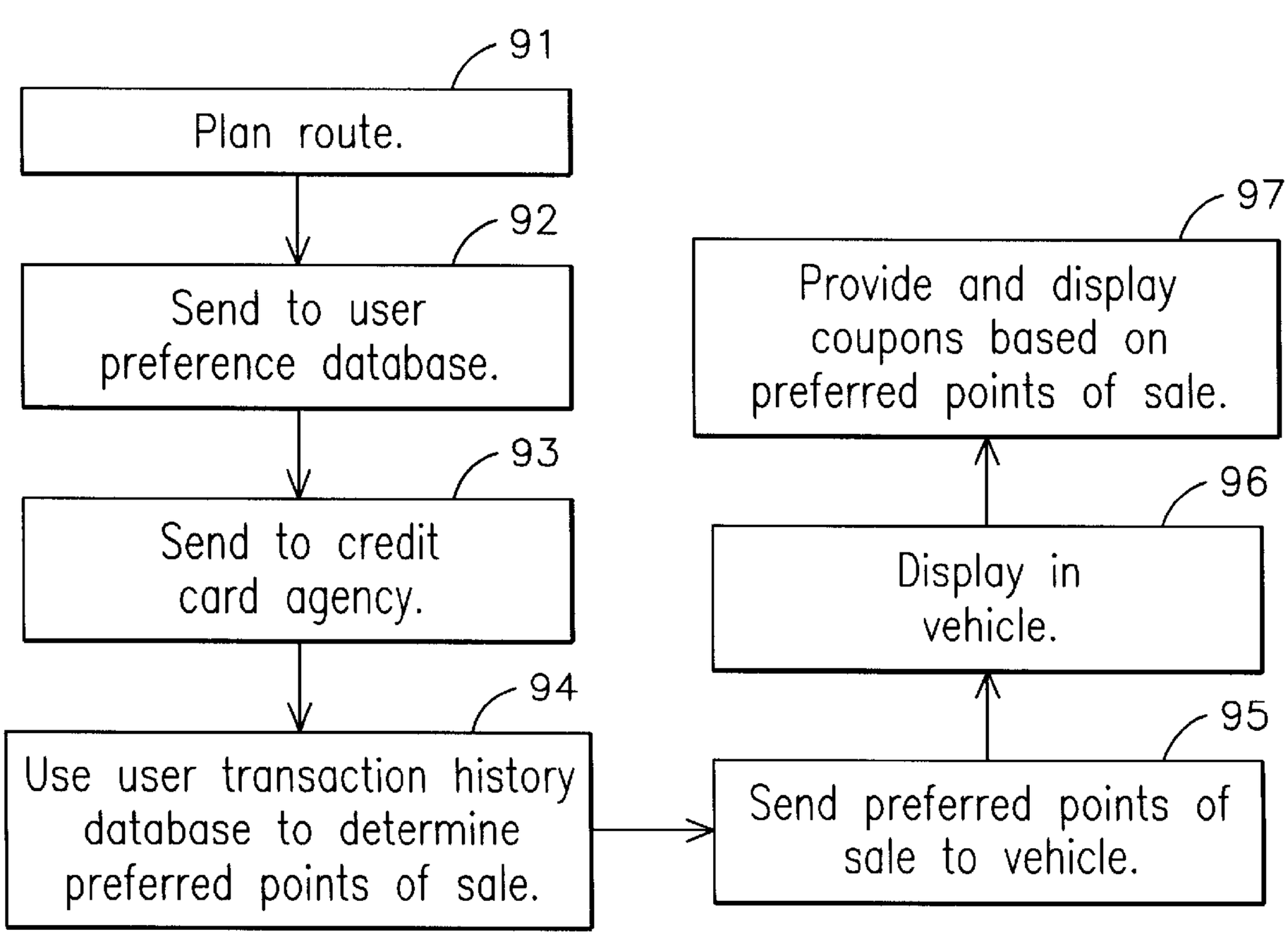

91
Plan route.
92
Send to user preference database.
93
Send to credit card agency.
94
Use user transaction history database to determine preferred points of sale.
95
Send preferred points of sale to vehicle.
96
Display in vehicle.
97
Provide and display coupons based on preferred points of sale.

*FIG. 7*

# MULTI-USE CREDIT CARD FOR FINANCIAL TRANSACTIONS AND VEHICLE CONFIGURATION

## BACKGROUND OF THE INVENTION

The present invention relates to a credit card and more specifically to a credit card system and method that allows a user to use a credit card for a financial transaction and to customize a vehicle specific for a user of the credit card.

Credit cards and bank debit cards currently exist for financial transactions. These cards are becoming so well used that almost all places of business accept credit cards and bank debit cards for payment. For example, instead of paying inside of a gas station or seeking out a gas attendant to pay for gas, credit cards and debit cards are used at a gas pump for self-service gasoline purchases. These cards are also used to make phone calls from pay phones and while in-flight on an airplane. To simplify purchases at stores, self-service devices are now installed at check-out registers. To assist a user in obtaining cash, Automatic Teller Machines (ATMs) now allow users to deposit, withdraw, and transfer funds to and from bank accounts without interacting with an employee of a bank.

Many of these cards include a magnetic strip, attached to the back of the credit card, which contains information about a credit card owner's account. During a financial transaction, the magnetic strip is passed through a magnetic card reader so that the information contained on the magnetic strip can be read. Usually, when a credit card is used, the information from the magnetic strip is transmitted, usually over telephone lines, to a credit card company or another authorization service to obtain authorization for a particular purchase.

For individuals who use generally complex equipment, such as mobile assets including on-road or off-road vehicles, ships, airplanes, railroad locomotives, trucks, and other forms of complex equipment including industrial equipment, consumer appliance equipment, medical imaging equipment, equipment used in industrial processes, telecommunications, aerospace applications, power generation, etc., where a number of the complex equipments are available, such as a vehicle which is part of a fleet of vehicles, for example a fleet of trucks, buses, or trains, and the individual is not guaranteed to always use the same piece of complex equipment, the individual has to adjust settings on the specific equipment to the individual's specifications.

For example, when traveling, instead of traveling with a significant amount of money, an individual will use a credit card to purchase food, lodging, and other items. When such individuals utilize assorted vehicles within a fleet of vehicles, the need to make purchases is juxtaposed with the desire to configure the vehicle to the user's liking. Because the vehicle used by a specific user is part of a fleet, the user may not use the same vehicle every time. Thus, at a minimum, the user must adjust the climate controls, seating position, steering wheel position, preprogrammed radio stations and other adjustable features to the user's specific liking.

## SUMMARY OF THE INVENTION

Towards this end, a user of a credit card or debit card would benefit from a card which in addition is integral in financial transaction, is also able to be used to customize equipment to a user's specifications. Thus this invention discloses a credit card system for use by a user for conducting financial transactions and configuring features in a vehicle specific to said user. The credit card system comprises a credit card with storage space capable of storing information needed for a financial transaction and information needed to configure a vehicle specific to a user of the credit card, with a credit card data receptacle located in the vehicle. The system also has a User Preference Database, a global communication network, and respective network transceivers. The network transceivers are used for communicating over the global communication network, where they are connected to the credit card data receptacle and the User Preference Database.

This invention also discloses a method for configuring a complex equipment specific to a user with a credit card. The method has a User Preference Database. The method provides for entering a credit card into a receptacle connected to the complex equipment. The method further allows for the credit card to retrieve complex equipment setting data specific to the user from the User Preference Database. The method provides for configuring the complex equipment based on the data received.

## BRIEF DESCRIPTION OF THE DRAWINGS

The present invention can be more easily understood and the further advantages and uses thereof more readily apparent, when considered in view of the description of various exemplary embodiments and the following figures in which:

FIG. **1** is an exemplary illustration of components needed for the invention and communication connections between the components;

FIG. **2** is an exemplary illustration of another embodiment of communication connections between the components;

FIG. **3** is a flow chart illustrating a preferred embodiment of the invention where configuring a vehicle is accomplished with only a credit card;

FIG. **4** is a flow chart illustrating a preferred embodiment of the invention where configuring a vehicle is accomplished with a credit card and a database;

FIG. **5** is a flow chart illustrating a preferred embodiment of the invention where configuring a vehicle involves determining a type of vehicle to configure;

FIG. **6** is a flow chart illustrating a preferred embodiment of selecting a coupon; and

FIG. **7** is a flow chart illustrating a preferred embodiment of selecting a coupon based on a location of a vehicle.

## DETAILED DESCRIPTION

FIG. **1** is an exemplary illustration of all of the components of the invention including communication connections between the components. A credit card **10** generally has one magnetic strip **12** fixed to the back of the credit card **10**. In a preferred embodiment, a credit card **10** includes a wider magnetic strip or a second magnetic strip, neither of which are shown, on the back on which various data is recorded. In another preferred embodiment, not shown, an Integrated Circuit chip is embedded within the card to provide a storage component for storing various types of data. Physically, the storage component may be a single unit, but functionally is segmented into a plurality of storage components. In another embodiment, each storage component may be individual storage units.

As further illustrated in FIG. **1**, the credit card **10** can be used either for a purchase at a point of sale **15**, or can be inserted in a receptacle or configurator **17** within a vehicle **20**. Though a vehicle **20** is the piece of equipment referenced

in explaining all of the drawings, the vehicle **20** can be any complex equipment, such as mobile assets including on-road or off-road vehicles, ships, airplanes, railroad locomotives, trucks, buses and mobile industrial equipment. Ones skilled in the art will also appreciate that this invention can also be used with other forms of complex equipment including other industrial equipment, consumer appliance equipment, medical imaging equipment, equipment used in industrial processes, telecommunications, aerospace applications, power generation, etc.

In a preferred embodiment the credit card **10** contains a magnetic strip **12** and the receptacle **17** can read information contained on the magnetic strip **12**. In another embodiment the information is contained in another readable media, not shown, and the receptacle **17** can read the information contained on this media. Once inserted within the credit card receptacle **17** or configurator, the vehicle **20**, using a wireless network **22**, will connect to a communication network **24**, such as the Internet, and then connect to the User Preferences and Information Database, or User Preference Database **25**. To make the connections a transceiver **26** is part of the vehicle **20**. In another embodiment the complete network is wireless or is some other global communication network **19**. Using the wireless connection **22** and Internet connection **24**, the vehicle **20** will also be able to connect to a facility **28**, such as a Credit Card Agency, which maintains a User Transaction History Database **30**. This facility **28**, in one embodiment, can house both the User Transaction History Database **30** and the User Preferences and Information Database **25**. In another embodiment a separate facility **27** houses the User Preference Database **25**. A transceiver **32**, **33** capable of communicating with the global communication network **19** is located at the User Transaction History Database **30** and the User Preference Database **25**. Thus, when the credit card **10** is used at a point of sale **15**, the point of sale **15** would communicate **40** with the facility **28** maintaining the User Transaction History Database **30** to seek approval and then transmit **42** to the point of sale **15** that approval of the sale was granted. In a preferred embodiment, based on an agreement with the Credit Card Agency **28** and a point of sale **15**, special offers, in the way of coupons, incentives, deals, or rebates **44** can be transmitted to the point of sale **15** for a user to use.

Also illustrated in FIG. **1** and in FIG. **6** is the ability to transmit and store location data about the vehicle **20** to the User Preference Database **25**. The Credit Card Agency **28** is then able to obtain the location of the vehicle **20** via the global communication network **19**, or some other data sharing mechanism, from the User Preference Database **25**. Based on the location of the vehicle **20**, the Credit Card Agency **28** transmits special offers, in the way of coupons, incentives, deals, or rebates **44** to the point of sale **15** for the user based on the user's prior transactions contained in the User Transaction History Database **30** and current geographic location and proximity to related goods or services. Thus, FIG. **6** illustrates first obtaining a location of the vehicle, step **85**. The location is sent to the User Transaction History Database **30**, step **86**. This information can be sent directly from the vehicle or through the User Preference Database **25**. The Credit Card Agency **28**, using the User Transactions History Database **30** will review prior sale history of the user, step **87**. Based on prior sales and the location of the vehicle, a coupon will be transmitted to the vehicle, step **88**.

FIG. **2** is an exemplary illustration of another embodiment of communication connections between the components. The location of the vehicle **20** is determined with the use of a global positioning determination device **46**, such as a global positioning receiver or network based wireless location transceiver device. Instead of transmitting a coupon **44** to the point of sale **15**, based on the location of the vehicle **20**, the coupon is transmitted to the vehicle **20** where the coupon **44** is viewable to the user, either by a heads up display (HUD), an on-board monitor, or a display monitor **49**. The coupon **44** may be viewable either as soon as it is received or once the vehicle **20** has reached the point of sale **15**. In a preferred embodiment, the user has the option to either accept or reject the coupon **44** before it is stored to the credit card **10**. In another embodiment, the coupon **44** is simply stored to the credit card **10** for future use. The coupon **44** may be a coupon for use at any point of sale **15** or may be specific to a point of sale **15** near the location of the vehicle **20**.

In another preferred embodiment, illustrated in FIG. **7**, the user programs a planned route **53** into a navigational aid on-board computer or processor **51**, step **91**. The route **53** and location of the vehicle **20** is transmitted to and stored in the User Preference Database **25**, step **92**. The location of the vehicle **20** and planned route **53** are transmitted to the Credit Card Agency **28**, step **93**. Based on the information transmitted, the Credit Card Agency **28**, using the User Transaction History Database **30** reviews prior sales, determines preferred points of sale **15**, such as preferred restaurants, hotels, or gas station brands, step **94**. Using the User Transaction History Database **30**, the Credit Card Agency **28** transfers the location of preferred points of sales **15** to the vehicle **20**, step **95**, for display on a display monitor **49**, step **96**. The information for the preferred points of sales **15** may also include coupon **44** offers, step **97**.

FIG. **3** is a flowchart illustrating a preferred embodiment of the invention where configuring a vehicle **20** is accomplished with only a credit card **10**. In this embodiment, user characteristics for a vehicle **20** are saved on the credit card **10**. Thus, when a user enters the credit card **10** into the configurator or credit card receptacle **17**, step **70**, the configurator **17** reads the data from the card **10**, step **72**, and then configures the vehicle **20** based on the data retrieved, step **73**. In a preferred embodiment, the receptacle **17** can also write configuration data onto the credit card **10**.

FIG. **4** is a flow chart illustrating a preferred embodiment of the invention where configuring a vehicle **20** is accomplished with a credit card **10** and a database **25**. In this embodiment, a user uses an access code for entry into the User Preferences Database **25**. This access code, can include any combination of a user name, password, and vehicle identification code. Thus, when a user enters the credit card **10** into the configurator, step **70**, the configurator reads the access code from the card **10**, step **75**, and then, if authorized connects with the User Preference Database **25** via the global communication network **19**, step **76**. Once access is granted to the database **25** and to the user's specifications contained in the database **25**, the data is sent back to the vehicle **20**, step **77**, and the vehicle **20** is configured to the user's specifications, step **73**.

In another embodiment, illustrated in FIG. **5**, the fleet of vehicles may be comprised of different types of vehicles. For example, a fleet of trucks may consist of truck cabs which are manufactured by different manufactures. Thus a user may have a plurality of user preferences based on the vehicles in a fleet that the user may use during a given trip. Thus when the user enters the credit card **10** in the configurator **17**, step **70**, the configurator **17** determines the vehicle being used, step **80** and transmits a message, including the user access code as discussed with FIG. **4**, about the vehicle

20 being used to the User Preference Database 25, step 82. The User Preference Database 25 then sends back the data relevant to the given vehicle 20, step 83. In other embodiments, information about the vehicle 20 being used may be provided by other means, such as by sending a message back to the user to identify the vehicle 20 in use.

While the invention has been described in what is presently considered to be a preferred embodiment, many variations and modifications will become apparent to those skilled in the art. Accordingly, it is intended that the invention not be limited to the specific illustrative embodiment but be interpreted within the full spirit and scope of the appended claims.

What is claimed is:

1. A credit card system for use by a user for conducting financial transactions and configuring features in a vehicle specific to said user, the credit card system comprising:

a credit card with storage space capable of storing information needed for a financial transaction and information needed to configure said vehicle specific to a user of the credit card;

a credit card data receptacle located in said vehicle.

2. The credit card system of claim 1, further comprising:

a User Preference Database;

a global communication network;

respective network transceivers, for communicating over said global communication network, connected to said credit card data receptacle and connected to said User Preference Database.

3. The credit card system of claim 2 further comprising a remote facility that contains said User Preference Database.

4. The credit card system of claim 2 wherein said network transceivers are used to transmit data between said vehicle and said User Preference Database over a secured network.

5. The credit card system of claim 2 wherein said global communication network comprises a wireless data network.

6. The credit card system of claim 1 wherein said vehicle has a seat for said user and said information to configure said vehicle specific to said user comprises a seat's settings.

7. The credit card system of claim 1 wherein said vehicle has a radio and said information to configure said vehicle specific to said user comprises preferred settings for said radio.

8. The credit card system of claim 1 wherein said vehicle has a steering wheel and said information to configure said vehicle specific to said user comprises a steering wheel's settings.

9. The credit card system of claim 1 wherein said vehicle has climate control apparatus and said information to configure said vehicle specific to the user comprises a climate control's settings.

10. The credit card system of claim 1 wherein said credit card contains default user preference data in said storage space.

11. The credit card system of claim 1 wherein said credit card data receptacle is operable to store updated user specific preferences on said credit card based on preferences selected by said user.

12. A credit card system for configuring a complex equipment specific to a user and for transacting financial transactions, the system comprising:

a User Preference Database containing information specific to said user for configuring said complex equipment;

a credit card capable of storing financial transaction information and information to access said User Preference Database;

a credit card data receptacle connected to said complex equipment;

a global communication network;

a User Transaction History Database containing information about said user's prior transactions;

a display monitor connected to said complex equipment;

a point of sale where said credit card is used for a financial transaction.

13. The credit card system of claim 12 wherein said User Preference Database and said User Transaction History Database are stored at a remote facility.

14. The credit card system of claim 12 wherein said User Preference Database is stored at a first remote facility, said User Transaction History Database is stored at a second remote facility, and communication occurs between said User Preference Database and said User Transaction History Database via said global communication network.

15. The credit card system of claim 12 wherein, using said display monitor, said credit card system displays a coupon to said user based on information contained in said User Transaction History Database for use at said point of sale.

16. The credit card system of claim 15 wherein said user accepts said coupon and said coupon is stored on said credit card.

17. The credit card system of claim 15 wherein said user accepts said coupon at said point of sale.

18. The credit card system of claim 12 further comprising a global positioning device connected to said complex equipment to determine a location of said complex equipment.

19. The credit card system of claim 18 wherein said complex equipment transmits said location to said User Preference Database.

20. The credit card system of claim 19 wherein said location is transmitted from said User Preference Database to said User Transaction History Database.

21. The credit card system of claim 18 wherein said location is transmitted to said User Transaction History Database wherein said coupon is selected based on said location.

22. The credit card system of claim 18 wherein said location is transmitted to said Transaction History Database wherein said coupon is selected based on a prior transaction of said user and said location.

23. The credit card system of claim 12 further comprising a computer connected to said complex equipment comprising trip routing functions.

24. The credit card system of claim 23 wherein a routed trip is transmitted to said User Preference Database.

25. The credit card system of claim 23 wherein a routed trip is transmitted to said Transaction History Database and said coupon is displayed in said complex equipment based on a prior transaction of said user and said routed trip.

26. The credit card system of claim 23 wherein a routed trip is transmitted to said Transaction History Database and a location of said point of sale is displayed in said complex equipment based on a prior transaction of said user and said routed trip.

27. A method for configuring a complex equipment specific to a user with a credit card, the method comprising:

having a User Preference Database;

entering a credit card into a receptacle connected to said complex equipment;

allowing said credit card to retrieve complex equipment setting data specific to said user from said User Preference Database;

configuring said complex equipment based on said data received.

**28**. The method of claim **27** further comprising:

notifying said user of a coupon transmitted from said User Transaction History Database wherein said coupon is selected based on information contained in said User Transaction History Database;

saving said coupon for use at a point of sale.

**29**. The method of claim **27** wherein the step of notifying said user of a coupon comprises:

having a display monitor connected to said complex equipment;

having a User Transaction History Database;

displaying a coupon on said display monitor.

**30**. The method of claim **28** wherein the step of notifying a user of a coupon further comprises:

having a position locating device connected to said complex equipment;

determining a location of said complex equipment;

displaying a coupon based on information contained in said User Transaction History Database and said location.

**31**. The method of claim **28** wherein the step of saving said coupon comprises saving said coupon on said credit card.

**32**. The method of claim **28** wherein the step of saving said coupon comprises saving said coupon in said User Transaction History Database and transmitting to said point of sale when said credit card is used.

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